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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,907	08/22/2001	Hans-Juergen Lohmann	4215	8414

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EXAMINER
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BRODA, SAMUEL

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/934,907	<b>Applicant(s)</b> LOHMANN ET AL.	
	<b>Examiner</b> Samuel Broda	<b>Art Unit</b> 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/01, 10/04, 4/05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

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### **DETAILED ACTION**

1. Claims 1-20 have been examined.

#### ***Priority***

2. Acknowledgment is made of Applicants' claim for foreign priority based on application 100 41 031.6 filed in Germany on 22 August 2000. It is noted, however, that Applicants have not filed a certified copy of these applications as required by 35 U.S.C. 119(b).

#### ***Drawings***

3. Applicants' formal drawings have been reviewed and approved.

#### ***Claim Rejections - 35 U.S.C. § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

...

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.1 Claims 1-3, 8-11, and 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kopisch, "Spatial Relations for Configuration Tasks in General and for the Cabin Layout of the AIRBUS A340 in Particular," Proceedings of the 6<sup>th</sup> International Conference on

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Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, pp. 450-457 (June 1993).

**4.2** Regarding claim 1, Kopisch teaches a method of automatically defining a spatial arrangement of structural components relative to each other within an installation space, using a data processing system including a configuration tool and a drawing module, comprising the steps:

- a) inputting general parameters of a selected installation space into said configuration tool [general parameters of shape of A340 input into “XKL” system, page 451 column 1 paragraphs 2-6];
- b) storing first data that define a space-specific geometry of said selected installation space, and then loading said first data and displaying said first data in said drawing module [“global distance relations” illustrated in Fig. 3, page 453 and corresponding text];
- c) storing second data that respectively geometrically define structural components that are to be arranged in said selected installation space [data corresponding to “global position relations,” “global adjacency relations,” “global overlapping relations,” “global containing relations,” and “object-centred rotation relations” illustrated in Figs. 4-8 and corresponding text at pages 453-455];
- d) providing said second data together with said first data into said drawing module [data input to “XKL” configuration system];

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e) providing a rule set that defines at least customer-specific requirements a customer for whom said structural components are to be arranged in said installation space [“constraint classes” for the description of spatial relations corresponding to a rule set, page 455 column 1 paragraph 2 through column 2 paragraph 1]; and

f) processing said first data and said second data together according to said rule set in said configuration tool so as to automatically define a spatial arrangement of said structural components relative to each other within said installation space [spatial arrangement of A340 cabin layout presented by the XKL configuration system illustrated in Fig. 9 at page 455].

Therefore, Kopisch anticipates claim 1.

**4.3** Regarding claims 2-3, the various “relations” used by the XKL configuration system optimizes configurations of components relative to each other and the combination of “relations” and “constraint classes” correspond to mathematical representations of position rules.

**4.4** Regarding claims 8-11, the cabin layout presented by the XKL configuration system includes passenger service units, galleys, toilets, and cabin dividers using the “relations” and “constraint classes.”

**4.5** Regarding claims 14-18, the cabin layout presented by the XKL configuration uses: plural outfitting components; plural structural components such as type of door [see Fig. 1 and corresponding text]; service channels corresponding to door assist space; and parametric data.

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***Claim Rejections - 35 U.S.C. § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5.1 Claims 4-7 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopisch, in view of Oota et al, European Patent Application publication 0621545 A2 (prior art supplied by Applicants).

5.2 Regarding claims 4-7 and 19-20, Kopisch does not appear to explicitly teach: (a) a document generating tool for generating production documents; (b) drawings generated via a plot script; and (c) an interface to a technical administration system such as a production system. Kopisch further does not appear to teach installation spaces corresponding to transport vehicles other than aircraft or corresponding to industrial plants.

However, Oota et al teaches a computer-aided design system that includes a document generating tool that generates production documents corresponding to drawings of routing results (Fig. 34) using a three-dimensional CAD system for the placement in industrial plants. See column 2 line 30 through column 4 line 18. According to Oota et al at column 1 lines 12-13, such a design system “is effectual for saving of design and production labor.” Additionally, the system of Oota et al “is also applicable to design and production activities for arrangement of

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general structures containing piping in . . . aircraft” and other vehicles. Also, the interactive design features permit the designer to lay out plant components and the system generates detailed design information, thus “greatly increasing the efficiency in design and production.” See column 48 lines 14-46.

Regarding claims 4-7 and 19-20, it would have been obvious to one of ordinary skill at the time of Applicants’ invention to modify the XKL configuration system of Kopisch with the CAD drawing and document generating tools of Oota et al, because the resulting design system would increase the efficiency of design and production by permitting the designer to interactively alter design parameters.

**5.3** Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopisch, in view of Nagle et al, U. S. Patent 5,793,648 (prior art supplied by Applicants).

**5.4** Regarding claims 12-13, Kopisch does not appear to explicitly teach design placement of electrical interfaces in service channels as part of the baggage compartments.

However, Nagle et al teaches the automation of generating wiring harness specifications in vehicles in service channels corresponding to dash panels and door panels. See Fig. 4 and corresponding text at column 8 lines 33-44. According to Nagle et al at column 2 lines 55-57, such a design automation “simplifies the process of generating a manufacturing specification for custom panel layouts.”

Regarding claims 12-13, it would have been obvious to one of ordinary skill in the art at the time of Applicants’ invention to modify the XKL configuration system of Kopisch with the

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electrical wiring specification design of Nagle et al, because the resulting combination would aid in the design of custom layouts.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure. Reference to Weber et al, U. S. Patent 6,113,644, is cited as teaching a method and system for vehicle design using occupant reach zones.

Reference to Dornheim, "Keeping Pace with Cabin Design," Aviation Week & Space Technology, Vol. 152 No. 12, p. 29 (20 March 2000), is cited as describing the use of three-dimensional aircraft cabin interior design using software developed by PACE Aerospace Engineering and Information Technology GmbH. of Berlin.

Reference to Anonymous, "Aircraft Interior Design," Aviation Week & Space Technology, Vol. 152 No. 8, p. 29 (21 February 2000), is cited as describing the "Pacelab Cabin" engineering tool.

Reference to Anonymous, "CAD Plays Bigger Role in Designing Commercial Jets," Machine Design, pages 20 et seq (9 November 1995), is cited as teaching use of Catia software to design jet airplanes.

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (571) 272-3709. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.



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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached at (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (571) 272-2100.

A handwritten signature in black ink, appearing to read 'S. Broda'.

**SAMUEL BRODA, ESQ.  
PRIMARY EXAMINER**